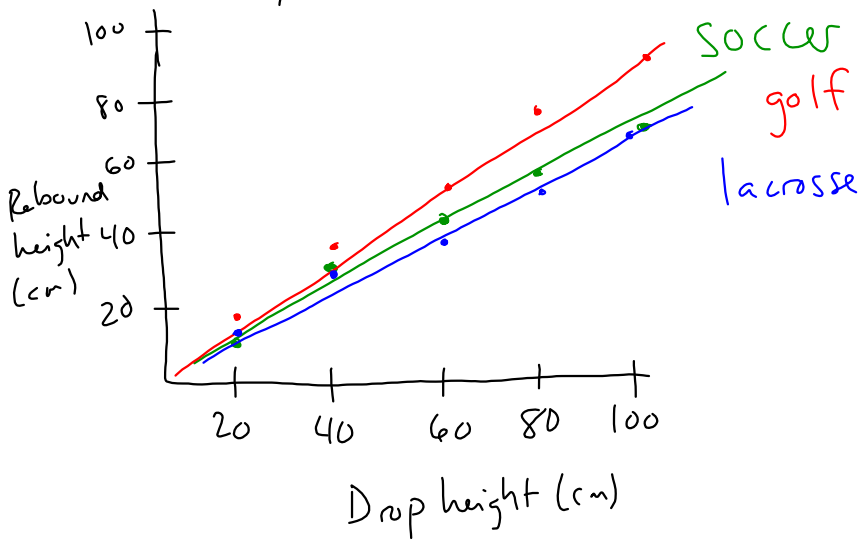
	soccer	volley	tennis	golf	wiffle	lacrosse	kick	racquet
20 cm	13	8	15	16	9	13	15	10
40 cm	29	18	28	35	17	26	23	24
60 cm	42	44	37	50	35	38	38	41
80 cm	53	60	47	68	44	53	46	55
100 cm	65	70	59	85	53	62	60	65

Graph: x-axis $\emptyset$ cm → 100 cm

y-axis $\emptyset$ cm → 100 cm



$$\text{Slope} = \frac{\text{rise}}{\text{run}} = \frac{\text{rebound height}}{\text{drop height}} = \frac{\text{rebound at 100 cm} - \text{rebound at 20 cm}}{100\text{ cm} - 20\text{ cm}}$$

Slope for our graph is efficiency, which is how well energy is transferred.

$$GPE = m a_g h$$

Slopes:

Soccer = 0.65 4
Volley = 0.78 2
Tennis = 0.55 8
Golf = 0.87 1
Wiffle = 0.55 7
Lacrosse = 0.61 5
Kick = 0.56 6
Racquet = 0.69 3

Work → anything that causes a change in energy

→ occurs when $\vec{F}$ and $\vec{d}$ are in the same direction

$W = Fd$ (there can be negative work)

Work and Energy are scalar quantities